

NOBLE (C.P.)

al

Salpingitis Considered in its
Relation to Pregnancy and
the Puerperal State.

BY

CHARLES P. NOBLE, M.D.,
PHILADELPHIA.

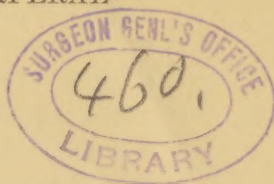


REPRINT FROM VOL. XVI.
Gynecological Transactions.
1891.



SALPINGITIS CONSIDERED IN ITS RELATION TO PREGNANCY AND THE PUERPERAL STATE.

By CHARLES P. NOBLE, M.D.,
Philadelphia.



THE great advance which has been made in positive knowledge concerning pelvic inflammation in women within recent years has thrown much light upon many of the problems of gynecology. The period marks a distinct epoch in the history of the science. This fact renders profitable and even essential a study of the various problems into which pelvic inflammation enters as a factor in the light of present knowledge. Many of the theories of the older pathology will derive fresh support, and others will disappear as being without foundation.

The relation of salpingitis in its various stages to sterility, pregnancy, and the puerperal state is one of the questions which demand study at this time. The classical treatises upon sterility scarcely touch upon salpingitis as a cause of the condition, and absolutely ignore the important bearing which its existence or non-existence has upon the question of treatment. The same is even more true of the relation of salpingitis to pregnancy and the puerperal state.

A study of the principal medical periodicals for the past three years and the standard works upon gynecology and obstetrics has shown very little appreciation of the bearing which modern knowledge has upon the commonly accepted theories concerning the conditions in question. These con-

siderations have induced me to review the subject and to report certain cases of salpingitis complicating pregnancy which have come under my notice.

SALPINGITIS IN ITS RELATIONS TO STERILITY.—It is essential to the occurrence of normal pregnancy that the spermatozoa and the ovum gain entrance to the uterine cavity. The scope of this paper excludes a consideration of those conditions which render difficult or impossible the entrance of the spermatozoa into the cavity of the uterus; but not so the second part of the problem. The importance of salpingitis in its varied forms as a cause of sterility, by preventing the ovum from entering the uterine canal, is apparent to the most superficial observer. Its importance as a cause of sterility is due to the general prevalence of the condition, and to the insurmountable obstacles to impregnation offered by the disease. The ingenuity of writers has been taxed to explain the manner in which various conditions which are accepted as causes of sterility, interfere with impregnation; but the reason why a Fallopian tube, which is occluded at its fimbriated or its uterine extremity through the processes of inflammation, or which is distended with serum, blood, or pus, or which has its lumen obliterated by one or more strictures, should prevent impregnation is at once patent. When such a condition exists in *both* Fallopian tubes sterility is the result. When the conditions are limited to one tube and otherwise the sexual organs are healthy, pregnancy is possible.

When unilateral salpingitis exists, whether the tube be simply occluded and bound down or distended with the products of the catarrh, hypersecretion from the endometrium usually takes place. The character of the discharge varies from the ordinary albuminoid discharge due to congestion of the uterus or the hemorrhagic discharge due to fungosities of the endometrium, to the purulent discharge of chronic suppurative catarrh of the uterus. The morbid condition of the endometrium and the acrid character of the secretions produced

by salpingitis, as a rule, prevent conception, even where one Fallopian tube is patent. But that pregnancy can occur during the course of unilateral salpingitis, presumably at a time when the uterus is relatively healthy, is shown by the reports of cases by myself and others. This fact is of much importance in the prognosis of sterility due to salpingitis. If it be assumed, as is not infrequently done, that because a mass can be felt on one side of the uterus having the general characteristics of an inflamed and occluded tube, that therefore the disease is bilateral and the woman permanently sterile, a grave error may be committed; and a confident prognosis of permanent sterility may be set at naught by the later occurrence of pregnancy. The same may be true when exudate is felt in both sides of the pelvis. It can readily happen that pelvic peritonitis extending over the entire pelvis has been caused by leakage of poison from *one* Fallopian tube, yet that the opposite healthy Fallopian tube may escape occlusion at its fimbriated extremity. Hence even when masses are found in both sides of the pelvis, it still behooves the physician to give a guarded prognosis with reference to sterility, lest the logic of events prove at variance with his inference. Such errors are most easily made when women are seen in the course of, or shortly after an attack of pelvic peritonitis; and are best avoided by reserving an expression of opinion until the recent inflammatory exudate has been absorbed and the real condition of the tubes and ovaries can be more accurately determined. Nevertheless it must be admitted that mistakes in prognosis, based upon the ordinary pelvic examinations, will occur even when every precaution is observed. The experienced examiner will seldom be mistaken concerning well-marked cases of tubal distention, but instances of occluded, lightly adherent, and slightly enlarged tubes will be overlooked or only suspected; and as a consequence patients will be promised too much, and be subjected to utterly useless and perhaps (under the circumstances) harmful treatment in the hope that thereby the incurable sterility may be cured. This aspect of the question

should engage the serious attention of everyone, and sterile women having a history of pelvic peritonitis, and especially having the evidence of the condition in the shape of pelvic organs fixed by adhesions, or with lessened mobility, should be promised but little, and above all should not be subjected to treatment for uterine or vaginal lesion until disease of the tubes has been positively excluded. In the near future I believe that abdominal section, at times of an exploratory nature, will be resorted to much more frequently than it has been in the past. At times the operation will be to remove a diseased appendage, under which conditions the question of sterility is secondary; and at times the operation will be for diagnosis, when the bimanual examination does not make clear, nor yet exclude, the existence of the occlusion of the tubes, when pregnancy is desired, and treatment addressed to the uterus is otherwise indicated.

The mooted question, whether it is best always to remove both uterine appendages even if one be healthy, has a direct bearing upon the treatment of women sterile from unilateral salpingitis. Unless the experience of the future demonstrates, what the experience of the past apparently indicates, that after the removal of one diseased uterine appendage the healthy one left later becomes diseased; women sterile from this cause may have their health and fertility restored by the removal of the diseased appendage. One such case has occurred in my practice. The dictum that operation for the removal of the uterine appendages should be bilateral should not be hastily accepted; and certainly the sterile woman anxious for children, having had the circumstances explained to her, should be permitted to elect whether or not the healthy appendage be removed or not.

The literature of salpingitis in its relation to sterility and pregnancy is very scanty and unsatisfactory. American and English text-books upon gynecology scarcely mention the subject, and Continental authors treat it from the pathological standpoint. Especially is it true that there is no adequate

statement concerning the bearing which the present status of the subject of pelvic inflammation has upon the management of sterile women.

SALPINGITIS COMPLICATING PREGNANCY.—The textbooks are singularly silent concerning salpingitis as a complication of pregnancy. It is true that pregnancy under the circumstances is not common; nevertheless it is by no means rare. Wylie states that the stretching of adhesions as the uterus enlarges gives pain, and that abortion may occur. In the cases coming under my own notice there has been very considerable pain. It is not so surprising that obstetricians should neglect this subject as that gynecologists should do so. Nevertheless I expected to find reference to it under the heading of retroflexion of the gravid uterus, but did not. Since Tyler Smith pointed out that the usual cause of retroflexion of the gravid uterus is that pregnancy occurs in retroflected uteri, attention has been drawn to this fact; and it is well known that abortion on the one hand or failure in repositing the misplaced uterus on the other, is often due to fixation of the misplaced organ. Now, as peritonitis is almost always caused by salpingitis, the relation between salpingitis and retroflexion with adhesion of the gravid uterus is at once apparent. Undoubtedly there is a field here for the investigator of the future to determine the relation of salpingitis to abortion, to retroflexion of the gravid uterus, to the vomiting of pregnancy, and to peritonitis occurring during the course of pregnancy.

I shall not discuss the etiology of ectopic gestation further than to point out that modern investigators agree that slight or catarrhal salpingitis without occlusion is the controlling factor in its causation. This fact is suggestive with reference to the proper management of this type of salpingitis.

SALPINGITIS AS A CAUSE OF PUERPERAL PERITONITIS.—The relation between salpingitis and puerperal peritonitis has received more attention. When the serious nature of salpingitis was first recognized by the present generation there was a

decided tendency to magnify its importance, and to deny the existence of other independent forms of inflammation. Pelvic inflammation consisted in salpingitis and peritonitis, and certain gynecologists went so far as to deny what post-mortem studies had amply proved, namely, the existence of puerperal septic cellulitis and true pelvic abscess. It was but a step for this school of men to regard all cases of puerperal peritonitis as secondary to puerperal salpingitis, and as amenable to the same treatment—the removal of the appendages, with irrigation and drainage of the peritoneum. This view of the pathology of these cases took no note of the fact that in typical cases of puerperal peritonitis the uterus, vagina, and pelvic cellular tissue are more or less infected, and that even though the peritoneum can be put in good condition by operation, the morbid condition of the uterus, vagina, pelvic connective tissue, veins, and lymphatics cannot be influenced thus—severe septic inflammation of these being often fatal. As a result of such teaching, it was gravely proposed to treat all cases of puerperal fever by abdominal section! The result of operation upon typical cases of puerperal peritonitis has been—as should have been expected—very discouraging. Cases operated on within the first week of the puerperium have been uniformly fatal.

There can be no doubt, however, that the septic inflammation at times does spread from the puerperal uterus along the tubes to the peritoneum, and cause septic salpingitis and peritonitis, without the invasion of the pelvic cellular tissue. In such cases should the peritonitis become spreading, or should pus accumulations form, undoubtedly abdominal section offers the only *reasonable* hope of saving life. But the difficulty in differentiating these cases from those in which septic parametritis is present, and in estimating the relative importance of the septic inflammation of the uterus as contrasted with that of the peritoneum, will always make the selection of cases unsatisfactory to the surgeon. Progress in the treatment of cases of acute diffuse puerperal inflammations lies in the direction of prevention. The more chronic cases, having a

history extending over some weeks, in which the inflammatory process has become localized, offer a far better field for curative operation.

Abdominal section promises most in cases of puerperal peritonitis arising from conditions present within the abdomen prior to labor. This class of cases embraces peritonitis due to the bruising or rupture of tumors, especially ovarian tumors and retention-cysts of the Fallopian tubes. The conditions present in such cases are essentially different from those present in puerperal peritonitis due to infection of the birth-canal during labor. The uterus and pelvic connective tissues are healthy, and when the tubal or ovarian tumor is removed and the peritoneum irrigated and drained, the woman is placed in condition to get well, as all diseased structures have been removed.

The relation between ovarian tumors injured during labor and puerperal peritonitis is well known, and many operations have been done for the removal of the tumor and the cure of the peritonitis under these conditions. But little has been written concerning the relation between the various tubal cysts due to salpingitis existing prior to pregnancy and puerperal peritonitis. This class of cases comes under the generic title of autogenetic puerperal fever. The name, in the light of the teaching of bacteriology, is incorrect, yet practically it is a good name, as signifying that the fever has arisen from causes residing in the woman at the beginning of labor, and not from infection introduced from without. When a tubal cyst having septic contents is injured during labor, peritonitis commonly results. If the cyst has ruptured and poured its contents into the peritoneal cavity, spreading peritonitis quickly follows. But when the cyst has been bruised only, or but a small escape of septic matter has taken place, the peritonitis is more localized. These points are illustrated in the cases reported. In this class of cases there are symptoms of peritonitis only, and there is an absence of the symptoms which accompany septic colpitis and metritis.

The lochia remains sweet and may be entirely normal in quantity. Moreover, there is the history of pelvic inflammation antedating the pregnancy, and the inflammatory mass to be outlined by bimanual examination, to guide the surgeon. Whenever the symptoms are grave, and local tenderness prevents a diagnosis, anæsthesia should be employed. Early positive diagnosis is all-important.

Abdominal section, removal of the diseased structures, irrigation, and drainage promise good results in these cases. But the indication is theoretical. No cases have been reported in which operation has been done under the conditions laid down. Operations for post-puerperal pyosalpinx and for peritonitis are on record, but in all cases the inference is strong that the disease was the result of infection of the birth-canal during labor.

The following cases illustrating the relations between salpingitis and pregnancy, labor and the puerperal state have come under my notice :

CASE I. (communicated by Dr. J. W. Millick, of Philadelphia).—Mrs. S., aged twenty-four, mother of three children, miscarried at the fourth month, and developed a salpingitis of the left tube. Under treatment the patient's condition improved. After three months a severe attack of pelvic peritonitis supervened. Convalescence from this was still imperfect when she became pregnant. At this time the enlargement of the left tube was marked. Obstinate vomiting of pregnancy greatly prostrated her, and miscarriage threatened on several occasions, but she went to full time. A healthy child was born by a breech presentation. During the labor a large fluctuating tumor was felt in the left iliac fossa, which tumor was pushed out of the way of the advancing breech. Labor was followed by a series of chills with fever, and after four months a violent diarrhœa set in, carrying off large quantities of pus. These attacks of diarrhœa, with discharge of pus, recurred every three or four weeks. Conception again occurred. During the pregnancy the attacks of diarrhœa continued for seven months, and then ceased, but septic fever was

present until term. During this time prostration was marked. Mrs. S. was delivered January 30, 1888, of a living male child without apparent accident. General peritonitis followed immediately, and she died February 7th. Post-mortem after twenty-four hours: The entire abdominal cavity was filled with fetid, greenish pus, resembling cheese. An opening was found in the colon, near the sigmoid flexure, through which the pus had escaped, per rectum, from the pyosalpinx. This becoming occluded, presumably by the curd-like pus, during the last weeks of pregnancy, accumulation had resulted and rupture had taken place during labor.

Dr. Millick remarks that the case occurred before the general acceptance of the modern teaching concerning pelvic inflammation.

CASE II. (communicated by Dr. T. D. Dunn, of West Chester, Pa.) Mrs. H. B., colored, came under my care at the birth of her second child, January, 1888. The labor and puerperium were normal. A few months later her husband contracted gonorrhœa. The family shortly after removed from West Chester, and I saw nothing more of them until January, 1890. At that time the woman was eight months pregnant, and was suffering severe pain in the right ovarian region. February 26th she was delivered of a healthy child, which developed gonorrhœal conjunctivitis on the sixth day. The labor was a natural one, and lasted but four hours. Twenty-four hours after delivery peritonitis was ushered in by a severe chill. All the symptoms of peritonitis were present in marked degree, and death resulted within forty-eight hours. Autopsy, forty-eight hours after death: The abdomen was very tympanitic. Fully one quart of seropus was found in the pelvic cavity, which was acutely inflamed. The entire peritoneum was congested, but enough plastic material had not been thrown out to agglutinate the bowels. The uterus was well contracted and normal in every respect. A rupture was found in the right Fallopian tube, the sac of which when distended was equal in size to a hen's egg. Both ovaries and the left tube were free from disease. All other organs were normal.

CASE III.—In the spring of 1890 I was called to see a mul-

tipara, aged about thirty-five, who gave a history of pelvic inflammatory attacks extending over some years; also a history of probable pregnancy of three or four months. Some weeks before she had visited a physician, representing that "she had caught cold on her monthlies," and had received local treatment. From her statement, I believe that the sound was introduced, and an intra-uterine application was made. Pelvic pain and uterine hemorrhage resulted, and, after some days, peritonitis, with obstinate vomiting. Three weeks later she came under my care. On examination I found the pelvis filled with a mass, the cervix pushed forward and upward against the pubes, great pelvic congestion and universal tenderness, the pain being most marked on the right side. Afterward, under anæsthesia, I satisfied myself that the cervix and pelvic tumor were continuous, and diagnosed pregnancy in a retroflexed and adherent uterus, complicated by salpingitis (pyosalpinx) on right side. Hoping that abortion would occur, or possibly that the adhesions would stretch and the uterus rise into the abdomen, a temporizing policy was adopted. Two months went by, and the abdomen began to enlarge, the pelvic conditions remaining the same. Careful examination failed to reveal the foetal heart-beats, or the rhythmic contractions of the pregnant uterus. The absence of the foetal heart-sounds could be explained on the supposition that the foetus was dead; in that case, however, it was difficult to understand the continued, regular growth of the mass. The absence of the intermittent contractions made the diagnosis doubtful. The case passed into other hands, and was operated upon when in a septic condition, with a diagnosis of ovarian tumor. A small, seven months', living foetus was removed. Everything was found matted together, and the patient becoming collapsed, the uterine incision was closed and nothing further attempted. She died some hours later. At the post-mortem, a tumor of the *anterior* wall of uterus was found; also a pyosalpinx on the right side. The pelvic and abdominal viscera were universally adherent. The location of the tumor explained the absence of intermittent contractions and the foetal heart-sounds. During the entire pregnancy this woman suffered very much from pain and from nausea.

CASE IV.—Mrs. K., aged about forty-four; has had nine children and several miscarriages. Thirteen years ago, after a miscarriage, she was violently ill with pelvic inflammation, which confined her to bed for two months. Within three years she had two recurrences. Her physician, Dr. J. M. Barton, writes me that the attacks were diagnosed as “pelvic cellulitis, with circumscribed peritonitis, the inflammatory deposits rising high above the pelvis.” The two recurrences were independent of pregnancy, and furnish positive proof that salpingitis was present on one side. Ten years ago, after a labor at term, pelvic inflammation again occurred, the pelvis being choked with exudate. She was confined to bed twelve weeks. At this time she was under the care of Dr. A. K. Minnich, and was seen in consultation by Dr. Goodell. The diagnosis was pelvic cellulitis. After a tedious convalescence she recovered her usual health—suffering at times pelvic discomfort, and having a number of slight attacks of pelvic inflammation, confining her to bed from a few days to a week. Within the past ten years she has had three children at term, the last being born March 15,*1891. Only in the last labor was the puerperium abnormal. Within twenty-four hours thereafter she was violently ill with pelvic peritonitis, the pain being referred to the right side, as in all previous attacks. There were chills, high fever, tympany, and vomiting. After the third day the symptoms ameliorated—anorexia, however, remaining. At the end of a week a relapse occurred, the temperature rose to 101° F., the pulse to 110, tympany and pain increased, and nausea and vomiting became marked. After twenty-four hours, I saw her in consultation. At the time she was extremely ill, with a listless expression and somewhat sunken face. Pelvic tenderness was so marked that an examination showed only pelvic exudate upon the right side. It was the opinion of the attending physician and the patient that the inflammation was spreading. The peritonitis was clearly due to bruising or rupture of a diseased tube on the right side, because of the absence of all signs of infection of the birth-canal, and of the early onset of the inflammation. In the consultation the patient's condition was considered very dangerous, but not hopeless, either without or with operation. The case was not

considered favorable for operation because of the prostration from delay. As the bowels had not been moved, it was advised that these be opened by broken doses of calomel, and by enemata of turpentine, Epsom salts, glycerin, and water, and that if improvement followed, operation should be postponed until the patient's condition improved; but that if improvement did not take place, operation would then offer the only hope of saving life, and that a slight one. The bowels were moved and the patient improved, and operation was postponed. Dr. Goodell saw Mrs. K. shortly afterward, and advised a continuance of medical treatment. She has had a tedious and somewhat interrupted convalescence, and refuses operation for the removal of the source of her trouble—a diseased right Fallopian tube.

In the *Medical News* for 1888, page 570, Dr. Blackruder, of Montreal, reports four cases of peritonitis occurring during gestation, three proving fatal. The onset in each case was sudden, the course violent, with high temperature, and death within forty-eight hours; the fourth case recovered after a long illness. No post-mortems were held, but it was considered probable that the inflammation was due to rupture of a pus tube.

In the *Annals of Gynecology* for May, 1891, in the transactions of the Philadelphia Obstetrical Society, Dr. Goodell reports three cases in which after violent pelvic peritonitis women became pregnant and were safely delivered of living children. The state of the tubes after the labor is not noted.

Similar cases, in which a diagnosis of salpingitis has been made and operation has been advised, and in which pregnancy has occurred later, are to be found mentioned in the literature. These cases show that pregnancy and labor, complicated by unilateral salpingitis, are not necessarily fatal; but they do not in the least disprove the dangers which attend pregnancy under these conditions, especially where the tubal disease is pyosalpinx. It is probable that in the cases having a favorable issue the salpingitis had not resulted in the accumulation of *septic* material within the tube.

A careful search through the principal medical journals for the past three years has revealed no other cases of puerperal peritonitis due to injury or rupture of retention-cysts of the Fallopian tubes during labor.

CONCLUSIONS.—One of the most important causes of sterility in women is salpingitis. This fact should be emphasized because of its bearing upon the management of the sterile condition. Salpingitis must be excluded in a given case before it is justifiable to treat vaginal or uterine lesions for the cure of sterility; for if salpingitis is the cause of the condition, on the one hand the treatment will be useless, and on the other it may be dangerous.

Bilateral salpingitis with occlusion is a cause of permanent sterility.

Unilateral salpingitis may or may not cause sterility. Pregnancy under the conditions is dangerous, and labor may be fatal through peritonitis. Until the diseased appendage has been removed pregnancy should be avoided.

Puerperal peritonitis due to rupture of retention-cysts of the Fallopian tubes is analogous to the same condition when caused by the injury of ovarian tumors. Prompt abdominal section, removal of the diseased structures, irrigation, and drainage promise good results in these cases; because—the uterus and broad ligaments being healthy—the septic focus is thereby removed.

CHARLES P. NOBLE, M. D.
2134 HANCOCK ST., PHILA.